

SEQUENCE LISTING



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 Osakada, Fumio

<120> DIAGNOSTIC DRUGS FOR AUTOIMMUNE DISEASES

<130> 068383.0104

<140> 09/214,881

<141> 1991-06-07

<160> 13

<170> PatentIn Ver. 2.1

<210> 1

<211> 214

<212> PRT

<213> Homo sapiens

<400> 1

Gly	Lys	Gly	Asp	Pro	Lys	Lys	Pro	Arg	Gly	Lys	Met	Ser	Ser	Tyr	Ala
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Phe	Phe	Val	Gln	Thr	Cys	Arg	Glu	Glu	His	Lys	Lys	Lys	His	Pro	Asp
			20					25					30		

Ala	Ser	Val	Asn	Phe	Ser	Glu	Phe	Ser	Lys	Lys	Cys	Ser	Glu	Arg	Trp
		35					40					45			

Lys	Thr	Met	Ser	Ala	Lys	Glu	Lys	Gly	Lys	Phe	Glu	Asp	Met	Ala	Lys
	50					55					60				

Ala	Asp	Lys	Ala	Arg	Tyr	Glu	Arg	Glu	Met	Lys	Thr	Tyr	Ile	Pro	Pro
65					70					75					80

Lys	Gly	Glu	Thr	Lys	Lys	Lys	Phe	Lys	Asp	Pro	Asn	Ala	Pro	Lys	Arg
				85					90					95	

Pro	Pro	Ser	Ala	Phe	Phe	Leu	Phe	Cys	Ser	Glu	Tyr	Arg	Pro	Lys	Ile
			100					105					110		

Lys	Gly	Glu	His	Pro	Gly	Leu	Ser	Ile	Gly	Asp	Val	Ala	Lys	Lys	Leu
		115				120						125			

Gly	Glu	Met	Trp	Asn	Asn	Thr	Ala	Ala	Asp	Asp	Lys	Gln	Pro	Tyr	Glu
	130					135					140				

Lys	Lys	Ala	Ala	Lys	Leu	Lys	Glu	Lys	Tyr	Glu	Lys	Asp	Ile	Ala	Ala
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Glu Glu Glu Glu Asp Glu Asp Glu Glu Glu Glu Asp Glu Asp Glu Glu
 195 200 205

<210> 3
 <211> 214
 <212> PRT
 <213> Bos taurus

<400> 3
 Gly Lys Gly Asp Pro Lys Lys Pro Arg Gly Lys Met Ser Ser Tyr Ala
 1 5 10 15
 Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Pro Asp
 20 25 30
 Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg Trp
 35 40 45
 Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala Lys
 50 55 60
 Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro Pro
 65 70 75 80
 Lys Gly Glu Thr Lys Lys Lys Phe Lys Asp Pro Asn Ala Pro Lys Arg
 85 90 95
 Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu Tyr Arg Pro Lys Ile
 100 105 110
 Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp Val Ala Lys Lys Leu
 115 120 125
 Gly Glu Met Trp Asn Asn Thr Ala Ala Asp Asp Lys Gln Pro Tyr Glu
 130 135 140
 Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala Ala
 145 150 155 160
 Tyr Arg Ala Lys Gly Lys Pro Asp Ala Ala Lys Lys Gly Val Val Lys
 165 170 175
 Ala Glu Lys Ser Lys Lys Lys Lys Glu Glu Glu Glu Asp Glu Glu Asp
 180 185 190
 Glu Glu Asp Glu Glu Glu Glu Glu Asp Glu Glu Asp Glu Glu Glu Glu
 195 200 205
 Glu Asp Asp Asp Asp Glu
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<210> 4

<211> 214
<212> PRT
<213> Sus scrofa

<400> 4

Gly	Lys	Gly	Asp	Pro	Lys	Lys	Pro	Arg	Gly	Lys	Met	Ser	Ser	Tyr	Ala
1				5					10					15	
Phe	Phe	Val	Gln	Thr	Cys	Arg	Glu	Glu	His	Lys	Lys	Lys	His	Pro	Asp
			20					25					30		
Ala	Ser	Val	Asn	Phe	Ser	Glu	Phe	Ser	Lys	Lys	Cys	Ser	Glu	Arg	Trp
		35					40					45			
Lys	Thr	Met	Ser	Ala	Lys	Glu	Lys	Gly	Lys	Phe	Glu	Asp	Met	Ala	Lys
	50					55					60				
Ala	Asp	Lys	Ala	Arg	Tyr	Glu	Arg	Glu	Met	Lys	Thr	Tyr	Ile	Pro	Pro
65					70					75					80
Lys	Gly	Glu	Thr	Lys	Lys	Lys	Phe	Lys	Asp	Pro	Asn	Ala	Pro	Lys	Arg
				85					90					95	
Pro	Pro	Ser	Ala	Phe	Phe	Leu	Phe	Cys	Ser	Glu	Tyr	Arg	Pro	Lys	Ile
			100					105					110		
Lys	Gly	Glu	His	Pro	Gly	Leu	Ser	Ile	Gly	Asp	Val	Ala	Lys	Lys	Leu
		115					120					125			
Gly	Glu	Met	Trp	Asn	Asn	Thr	Ala	Ala	Asp	Asp	Lys	His	Pro	Tyr	Glu
	130					135					140				
Lys	Lys	Ala	Ala	Lys	Leu	Lys	Glu	Lys	Tyr	Glu	Lys	Asp	Ile	Ala	Ala
145					150					155					160
Tyr	Arg	Ala	Lys	Gly	Lys	Pro	Asp	Ala	Ala	Lys	Lys	Gly	Val	Val	Lys
				165					170					175	
Ala	Glu	Lys	Ser	Lys	Lys	Lys	Lys	Glu	Glu	Glu	Glu	Asp	Glu	Glu	Asp
			180					185					190		
Glu	Glu	Asp	Glu	Glu	Glu	Glu	Glu	Asp	Glu	Glu	Asp	Glu	Glu	Glu	Glu
		195					200					205			
Glu	Asp	Asp	Asp	Asp	Glu										
	210														

<210> 5
<211> 214
<212> PRT
<213> Rattus rattus

<400> 5

Gly	Lys	Gly	Asp	Pro	Lys	Lys	Pro	Arg	Gly	Lys	Met	Ser	Ser	Tyr	Ala
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Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Pro Asp
 20 25 30
 Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg Trp
 35 40 45
 Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala Lys
 50 55 60
 Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro Pro
 65 70 75 80
 Lys Gly Glu Thr Lys Lys Lys Phe Lys Asp Pro Asn Ala Pro Lys Arg
 85 90 95
 Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu Tyr Arg Pro Lys Ile
 100 105 110
 Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp Val Ala Lys Lys Leu
 115 120 125
 Gly Glu Met Trp Asn Asn Thr Ala Ala Asp Asp Lys His Pro Tyr Glu
 130 135 140
 Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala Ala
 145 150 155 160
 Tyr Arg Ala Lys Gly Lys Pro Asp Ala Ala Lys Lys Gly Val Val Lys
 165 170 175
 Ala Glu Lys Ser Lys Lys Lys Lys Glu Glu Glu Asp Asp Glu Glu Asp
 180 185 190
 Glu Glu Asp Glu Glu Glu Glu Glu Glu Glu Glu Asp Glu Glu Glu Glu
 195 200 205
 Glu Asp Asp Asp Asp Glu
 210

<210> 6

<211> 209

<212> PRT

<213> Sus scrofa

<400> 6

Gly Lys Gly Asp Pro Asn Lys Pro Arg Gly Lys Met Ser Ser Tyr Ala
 1 5 10 15
 Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Pro Asp
 20 25 30
 Ser Ser Val Asn Phe Ala Glu Phe Ser Lys Lys Cys Ser Glu Arg Trp
 35 40 45
 Lys Thr Met Ser Ala Lys Glu Lys Ser Lys Phe Glu Asp Met Ala Lys
 50 55 60

Ser Asp Lys Ala Arg Tyr Asp Arg Glu Met Lys Asn Tyr Val Pro Pro
 65 70 75 80
 Lys Gly Asp Lys Lys Gly Lys Lys Lys Asp Pro Asn Ala Pro Lys Arg
 85 90 95
 Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu His Arg Pro Lys Ile
 100 105 110
 Lys Ser Glu His Pro Gly Leu Ser Ile Gly Asp Thr Ala Lys Lys Leu
 115 120 125
 Gly Glu Met Trp Ser Glu Gln Ser Ala Lys Asp Lys Gln Pro Tyr Glu
 130 135 140
 Gln Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala Ala
 145 150 155 160
 Tyr Arg Ala Lys Gly Lys Gly Glu Ala Gly Lys Lys Gly Pro Gly Arg
 165 170 175
 Pro Thr Gly Ser Lys Lys Lys Asn Glu Pro Glu Asp Glu Glu Glu Glu
 180 185 190
 Glu Glu Glu Glu Glu Asp Glu Asp Glu Glu Glu Glu Asp Glu Asp Glu
 195 200 205

Glu

<210> 7
 <211> 185
 <212> PRT
 <213> Bos taurus

<220>
 <221> MOD_RES
 <222> (39)
 <223> Xaa = Glu or Arg

<220>
 <221> MOD_RES
 <222> (149)
 <223> Xaa = Any Amino Acid

<400> 7
 Gly Lys Gly Asp Pro Asn Lys Pro Arg Gly Lys Met Ser Ser Tyr Ala
 1 5 10 15
 Phe Phe Val Gln Thr Ser Arg Glu Glu His Lys Lys Lys His Pro Asp
 20 25 30
 Ala Ser Val Asn Phe Ser Xaa Trp Lys Thr Met Ser Ala Lys Glu Lys
 35 40 45

Ser Lys Phe Glu Asp Met Ala Lys Ser Asp Lys Ala Arg Tyr Asp Arg
 50 55 60
 Glu Met Lys Asn Tyr Val Pro Pro Lys Gly Asp Lys Lys Gly Lys Lys
 65 70 75 80
 Lys Asp Pro Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Phe Leu Phe
 85 90 95
 Ser Ala Glu His Arg Pro Lys Ile Lys Ala Glu His Pro Gly Leu Ser
 100 105 110
 Ile Gly Asp Thr Ala Lys Lys Leu Gly Glu Met Trp Ser Gln Gln Ser
 115 120 125
 Ala Lys Asp Lys Gln Pro Tyr Glu Glu Lys Ala Ser Lys Leu Lys Glu
 130 135 140
 Lys Tyr Glu Lys Xaa Ala Ala Tyr Arg Ala Lys Gly Lys Ser Glu Ala
 145 150 155 160
 Gly Lys Lys Gly Pro Gly Arg Pro Thr Gly Ser Lys Lys Lys Asn Glu
 165 170 175
 Pro Glu Asp Glu Glu Glu Glu Glu
 180 185

<210> 8
 <211> 209
 <212> PRT
 <213> Rattus rattus

<400> 8
 Gly Lys Gly Asp Pro Asn Lys Pro Arg Gly Lys Met Ser Ser Tyr Ala
 1 5 10 15
 Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Pro Asp
 20 25 30
 Ser Ser Val Asn Phe Ala Glu Phe Ser Lys Lys Cys Ser Glu Arg Trp
 35 40 45
 Lys Thr Met Ser Ala Lys Glu Lys Ser Lys Phe Glu Asp Met Ala Lys
 50 55 60
 Ser Asp Lys Ala Arg Tyr Asp Arg Glu Met Lys Asn Tyr Val Pro Pro
 65 70 75 80
 Lys Gly Asp Lys Lys Gly Lys Lys Lys Asp Pro Asn Ala Pro Lys Arg
 85 90 95
 Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu His Arg Pro Lys Ile
 100 105 110
 Lys Ser Glu His Pro Gly Leu Ser Ile Gly Asp Thr Ala Lys Lys Leu
 115 120 125

Gly Glu Met Trp Ser Glu Gln Ser Ala Lys Asp Lys Gln Pro Tyr Glu
 130 135 140
 Gln Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala Ala
 145 150 155 160
 Tyr Arg Ala Lys Gly Lys Ser Glu Val Gly Lys Lys Gly Pro Gly Arg
 165 170 175
 Pro Thr Gly Ser Lys Lys Lys Asn Glu Pro Glu Asp Glu Glu Glu Glu
 180 185 190
 Glu Glu Glu Glu Asp Asp Glu Asp Glu Glu Glu Glu Asp Glu Asp Glu
 195 200 205
 Glu

<210> 9
 <211> 206
 <212> PRT
 <213> Gallus gallus

<400> 9
 Gly Lys Gly Asp Pro Asn Lys Pro Arg Gly Lys Met Ser Ser Tyr Ala
 1 5 10 15
 Tyr Phe Val Gln Thr Cys Pro Arg Glu His Lys Lys Lys His Pro Asp
 20 25 30
 Ser Ser Val Asn Phe Ala Glu Phe Ser Arg Lys Cys Ser Glu Arg Trp
 35 40 45
 Lys Thr Met Ser Ser Lys Glu Lys Gly Lys Phe Glu Glu Met Ala Lys
 50 55 60
 Gly Asp Lys Ala Arg Tyr Asp Arg Glu Met Lys Asn Tyr Val Pro Pro
 65 70 75 80
 Lys Gly Glu Lys Lys Gly Lys Lys Lys Asp Pro Asn Ala Pro Lys Arg
 85 90 95
 Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu His Arg Pro Lys Ile
 100 105 110
 Lys Asn Asp His Pro Gly Leu Ser Ile Gly Asp Thr Ala Lys Lys Leu
 115 120 125
 Gly Glu Met Trp Ser Glu Gln Ser Ala Lys Asp Lys Gln Pro Tyr Glu
 130 135 140
 Gln Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala Ala
 145 150 155 160
 Tyr Arg Ala Lys Ser Lys Ser Asp Ala Gly Lys Lys Gly Pro Gly Arg

	165		170		175										
Pro	Ala	Gly	Ser	Lys	Lys	Lys	Ala	Glu	Pro	Glu	Glu	Glu	Glu	Glu	Glu
			180					185					190		
Glu	Glu	Asp	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Asp	Glu	Glu		
		195					200					205			

<210> 10
 <211> 201
 <212> PRT
 <213> Gallus gallus

<400> 10															
Ala	Lys	Gly	Asp	Pro	Lys	Lys	Pro	Lys	Gly	Lys	Met	Ser	Ala	Tyr	Ala
1				5					10					15	
Phe	Phe	Val	Gln	Thr	Cys	Arg	Glu	Glu	His	Lys	Lys	Lys	Asn	Pro	Glu
			20					25					30		
Val	Pro	Val	Asn	Phe	Ala	Glu	Phe	Ser	Lys	Lys	Cys	Ser	Glu	Arg	Trp
		35					40					45			
Lys	Thr	Met	Ser	Ser	Lys	Glu	Lys	Ala	Lys	Phe	Asp	Glu	Met	Ala	Lys
	50					55					60				
Ala	Asp	Lys	Val	Arg	Tyr	Asp	Arg	Glu	Met	Lys	Asp	Tyr	Gly	Pro	Ala
65				70						75					80
Lys	Gly	Gly	Lys	Lys	Lys	Lys	Asp	Pro	Asn	Ala	Pro	Lys	Arg	Pro	Pro
				85					90					95	
Ser	Gly	Phe	Phe	Leu	Phe	Cys	Ser	Glu	Phe	Arg	Pro	Lys	Ile	Lys	Ser
			100					105					110		
Thr	Asn	Pro	Gly	Ile	Ser	Ile	Gly	Asp	Val	Ala	Lys	Lys	Leu	Gly	Glu
		115					120					125			
Met	Trp	Asn	Asn	Leu	Ser	Asp	Gly	Glu	Lys	Gln	Pro	Tyr	Asn	Asn	Lys
	130					135					140				
Ala	Ala	Lys	Leu	Lys	Glu	Lys	Tyr	Glu	Lys	Asp	Val	Ala	Asp	Tyr	Lys
145				150						155					160
Ser	Lys	Gly	Lys	Phe	Asp	Gly	Ala	Lys	Gly	Ala	Ala	Thr	Lys	Ala	Ala
				165					170					175	
Arg	Lys	Lys	Val	Glu	Glu	Glu	Asp	Glu	Glu	Glu	Glu	Glu	Asp	Glu	Glu
			180					185					190		
Glu	Glu	Asp	Glu	Asp	Asp	Asp	Asp	Glu							
		195					200								

<210> 11
 <211> 208

<212> PRT
<213> Mus musculus

<400> 11

Gly	Lys	Gly	Asp	Pro	Ile	Lys	Pro	Leu	Gly	Lys	Met	Ser	Ser	Tyr	Ala	
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Phe	Phe	Val	Gln	Thr	Cys	Arg	Glu	Glu	His	Lys	Lys	Lys	His	Pro	Asn	
			20					25					30			
Ser	Ser	Val	Asn	Phe	Ala	Glu	Ile	Ser	Lys	Lys	Cys	Ser	Lys	Arg	Trp	
		35					40					45				
Lys	Thr	Met	Ser	Ala	Lys	Glu	Asn	Ser	Lys	Phe	Glu	Asp	Leu	Ala	Lys	
	50					55					60					
Ser	Asp	Lys	Ala	Cys	Tyr	Tyr	Arg	Glu	Met	Lys	Asn	Tyr	Val	Ser	Pro	
65					70					75					80	
Lys	Gly	Asp	Lys	Lys	Gly	Lys	Lys	Lys	Asp	Pro	Asn	Ala	Pro	Lys	Arg	
				85					90					95		
Pro	Pro	Ser	Ala	Phe	Cys	Leu	Phe	Cys	Ser	Glu	Asn	Arg	Pro	Lys	Ile	
			100					105					110			
Lys	Ile	Glu	Tyr	Pro	Gly	Leu	Ser	Ile	Gly	Asp	Thr	Ala	Lys	Lys	Leu	
	115						120					125				
Gly	Glu	Met	Trp	Ser	Glu	Gln	Ser	Ala	Lys	Glu	Lys	Gln	Pro	Tyr	Glu	
	130					135					140					
Gln	Lys	Ala	Ala	Lys	Leu	Lys	Glu	Lys	Tyr	Glu	Lys	Asp	Phe	Ala	Ala	
145					150					155					160	
Tyr	Arg	Val	Lys	Gly	Lys	Ser	Glu	Ala	Gly	Lys	Lys	Gly	Pro	Gly	Arg	
				165					170					175		
Pro	Ala	Gly	Ser	Lys	Lys	Lys	Asn	Asp	Ser	Glu	Asp	Glu	Glu	Glu	Glu	
			180					185					190			
Glu	Glu	Glu	Glu	Glu	Glu	Asp	Glu	Glu	Gly	Glu	Glu	Glu	Asp	Glu	Glu	
		195					200					205				

<210> 12
<211> 32
<212> PRT
<213> SYNTHETIC

<220>
<221> MOD_RES
<222> (22)
<223> Xaa = Any Amino Acid

<400> 12

Gly Lys Gly Asp Pro Asn Lys Pro Arg Gly Lys Met Ser Ser Tyr Ala
1 5 10 15

Phe Phe Val Gln Thr Xaa Arg Glu Glu His Lys Lys Lys His Pro Asp
20 25 30

<210> 13

<211> 32

<212> PRT

<213> SYNTHETIC

<220>

<221> MOD_RES

<222> (22)

<223> Xaa = Any Amino Acid

<400> 13

Gly Lys Gly Asp Pro Lys Lys Pro Arg Gly Lys Met Ser Ser Tyr Ala
1 5 10 15

Phe Phe Val Gln Thr Xaa Arg Glu Glu His Lys Lys Lys His Pro Asp
20 25 30

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